ABSTRACT OF THE DISCLOSURE

A method of identifying nucleic acid samples comprising: providing a mircoarray including a substrate coated with a composition including a population of nucleic acid probe modified micro-spheres immobilized in a coating containing a gelling agent or a precursor to a gelling agent, wherein a first portion of the micro-spheres is submerged in the gelatin coating and a second portion is exposed above the gelatin coating and is substantially free of gelatin, at least one sub-population of the population micro-spheres containing an optical barcode generated from at least one colorant associated with the micro-spheres and including a nucleic acid probe sequence; contacting the array with a target nucleic acid sequence; and detecting the color barcode of the sub-population of micro-spheres due to the interaction of the probe nucleic acid sequence and the fluorescently/chemiluminescently labeled nucleic acid sample target nucleic acid sequence.